

REMARKS

Claims 3-15, 55-59, and 69-75 are currently pending for examination.

Rejections under 35 U.S.C. §112, ¶1

Claims 3-15, 55-59 and 69-75 have been rejected under 35 U.S.C. §112, ¶1 as failing to comply with the enablement requirement. The Patent Office states that the specification does not teach a second molecular species having a terminating and facing away from the surface.

At the outset, Applicants are confused as to whether the Patent Office intended this to be a rejection based on enablement, or based on written description (for instance, the Office Action states that “The Examiner believes that the claims do not have the proper support in the original specification as filed”). Clarification is respectfully requested.

Moreover, Applicants note that the specification discusses the presence of two or more self-assembled monolayers on a surface, for example, on page 9, lines 26-30. As another example, on page 20, lines 9-15, the specification describes “a self-assembled monolayer of a second species exposing a second chemical functionality,” and on page 25, lines 15-19, functionalities are described as being provided at the exposed ends of molecules making up self-assembled monolayers of the present invention. The specification also describes and enables the production of self-assembled monolayers having exposed functionalities, for instance, on page 24, line 31 to page 25, line 23. Those of ordinary skill in the art would be able to prepare two or more self-assembled monolayers on a surface, see, for example, page 9, line 31 to page 10, line 9. Details of techniques for creating a self-assembled monolayer on a surface can also be seen in the examples, for instance, Example 2. Accordingly, as these examples illustrate, the specification describes and enables a second molecular species that terminates in an end facing away from the surface. Thus, it is respectfully requested that this rejection be withdrawn.

Priority

The Patent Office states that the instant application is not entitled to the priority dates of prior U.S. Pat. Apl. Ser. No. 09/164,733 (filed October 1, 1998) (now U.S. Pat. No. 6,776,094,

issued August 17, 2004), or U.S. Pat. Apl. Ser. No. 08/677,309 (filed July 9, 1996) (now U.S. Pat. No. 5,900,160, issued May 4, 1999).

Applicants respectfully disagree. Both of these references support the invention as presently claimed. For instance, Ser. No. 08/677,309 (the earlier-filed application of the two) describes a surface having two or more self-assembled molecular monolayers (see col. 7, lines 10-24 of Pat. No. 6,776,094), as well as a surface having a self-assembled monolayer having a second chemical functionality (see col. 14, line 48-58 of Pat. No. 5,900,160). In addition, Ser. No. 08/677,309 discloses that various functionalities can be provided at the exposed ends of molecules making up a self-assembled monolayer (see col. 18, lines 41-46 of Pat. No. 5,900,160). It should be noted that the above-cited disclosure is substantially similar, if not identical, to corresponding passages present in the instant application. Accordingly, the claims are fully supported by Ser. No. 09/164,733 and Ser. No. 08/677,309.

Rejections under 35 U.S.C. §102(b) in view of Schnur

Claims 3-15, 55-59 and 69 have been rejected under 35 U.S.C. §102(b) as being anticipated by Schnur, *et al.*, U.S. Patent No. 5,079,600 ("Schnur").

Schnur does not teach an isolated region on a surface that includes a lateral dimension of less than about 10 microns, as is recited in claims 1 and 69, as currently pending. In fact, Schnur teaches away from isolated regions in general. Schnur is directed to the production of printed circuitry or other semiconductor microcircuitry (see abstract). Such a device would not include *isolated* regions on its surface, as such regions would not be connected to any electrodes or lines, and hence would be ineffective for conducting electricity. Accordingly, Schnur does not teach or suggest an isolated region on a surface that includes a lateral dimension of less than about 10 microns. Interpreting Schnur as teaching isolated regions on a surface is thus taking the position that Schnur is incapable of performing its intended purpose, i.e., a circuit. Accordingly, Schnur does not teach or suggest independent claims 1 or 69, or any claims that are dependent therefrom.

The Patent Office also points to Examples 23 and 25 and the Abstract for the proposition that Schnur teaches an article defining a surface comprising palladium. However, Examples 23

and 25 do not teach a *surface* that comprises palladium. Rather, Schnur teaches a surface comprising copper, and palladium is used in the form of palladium chloride (PdCl_2) to rinse the copper surface during its formation. At best, Schnur may inherent teach that some palladium (likely a negligible amount, if that, since the PdCl_2 rinse is immediately followed by two rinsings of hydrochloric acid) becomes incorporated *within* the substrate and is then covered by a layer of copper, formed by using a standard copper plating bath to produce a copper film. Accordingly, Schnur does not teach or suggest a surface comprising palladium, as is recited in claims 55-59 and 69.

Thus, for at least the above-mentioned reasons, it is respectfully requested that the rejection of claims 3-15, 55-59 and 69 be withdrawn.

Rejections under 35 U.S.C. §103(a) in view of Schnur and Clark

Claims 70-75 have been rejected under 35 USC §103(a) as being unpatentable over Schnur in view of Clark, *et al.*, U.S. Patent No. 4,728,591 ("Clark").

Claims 70-75 each depend, either directly or indirectly, from claim 69. For at least the reasons explained above with respect to the rejection under §102(b) in view of Schnur alone, the premise of the rejection of claim 69 (that Schnur teaches all of the limitations of claim 69) is incorrect. Accordingly, while Applicants do not concede that there would have been any rationale to combine Schnur and Clark in the manner suggested in the Office Action, the present rejection cannot stand, regardless. Thus, withdrawal of the rejection of claims 70-75 is respectfully requested.

Rejections under 35 U.S.C. §102(b)/§103(a) in view of Singhvi

Claims 3-15, 55-59, and 69-75 have been rejected under 35 U.S.C. §102(b) as being anticipated by, or in the alternative, under 35 U.S.C. §103(a) as being obvious over, Singhvi, *et al.*, U.S. Patent No. 5,976,826 ("Singhvi").

The earliest priority date of Singhvi is October 4, 1993. With respect to the instant application, the present claims are fully supported by the earliest application to which the instant application claims priority, i.e., U.S. Pat. Apl. Ser. No. 08/131,841, filed October 4, 1993 (now

U.S. Pat. No. 5,512,131). See, as non-limiting examples, col. 11, lines 23-32 of Pat. No. 5,512,131, which discloses a self-assembled monolayer having a terminating end that can have a variety of functionalities, or col. 12, lines 54-65, which discloses two or more self-assembled monolayers on a surface. Thus, the claims are supported by the earliest priority document of Ser. No. 08/131,841. Accordingly, as the instant claims and Singhvi each have a common priority date of October 4, 1993, Singhvi is not prior art to the instant invention. It is therefore respectfully requested that the rejection of the claims under 35 U.S.C. §102(b) in view of Singhvi be withdrawn.

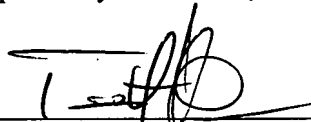
CONCLUSION

In view of the foregoing remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after the foregoing remarks, that the application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,

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